

## ABSTRACT OF THE DISCLOSURE

A sample chamber includes a movable upper chamber. The movable upper chamber includes a center bore opening to a bottom of the chamber, at least one port for introduction of gas under pressure to the center bore, and a first annular seal around the center bore. A stationary lower seat opposing the upper chamber has a center bore aligned with the upper chamber. and includes an exhaust and a second annular seal around the center bore. A test material is placed between the upper chamber and the lower seat. An actuator moves the upper chamber. When the upper chamber is moved down with the first annular seal in contact with an upper surface of a sample of the material and the second annular seal in contact with a lower surface of the sample, gas introduced to the upper chamber goes through the upper chamber and out through the exhaust.